

Notice of Allowability

Application No.

09/920,491

Examiner

Frank W. Lu

Applicant(s)

DONG, SHOULIAN

Art Unit

1634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 3/4/2005.
2. ☒ The allowed claim(s) is/are 20,22,24-33,35-40 and 42-45.
3. ☒ The drawings filed on 31 July 2001 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
 - * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892) (*correction*)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 7/2002 and 11/2002
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date 3/30/2005.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

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DETAILED ACTION

Reasons for Allowance

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Ms. Sandra Wells (Reg. No. 52,349) on March 30, 2005.

2. The application has been amended as follows:

In the specification:

Replace “ This application claims the benefit of U.S. Application No. 09/428,350 filed 10/27/99” in the first sentence of the specification (page 2 of the specification) with --- This application is a continuation-in-part of U.S. Application No. 09/428,350, filed on October 27, 1999, now US Patent No. 6,361,947 B1, and claims the benefit of U.S. Application No. 09/428,350 ---.

Replace “www. affymetrix” in line 7 of page 12 with --- affymetrix---.

Replace “co-pending US application Nos. 08/813,159 and 09/428,350 which are herein incorporated by reference in their entirety for all purposes) ” in lines 18 to 20 of page 22 with “co-pending US application No. 08/813,159, now abandoned, and co-pending US application No 09/428,350, now US Patent No. 6,361,947 B1, which are herein incorporated by reference in their entirety for all purposes ---.

In the claims:

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Cancel claims 46 and 47.

Replace “amplification product” in line 12 of claim 20 with --- amplified fragments---.

Replace “amplification product” in line 15 of claim 25 with --- amplified fragments---.

Delete “single “ in line 1 of claim 29.

Replace “a second nucleic acid sample” in line 4 of claim 29 with --- second nucleic acid samples ---.

Replace “amplified fragments” in line 15 of claim 29 with --- the second nucleic acid samples ---.

Replace “amplification product” in line 17 of claim 29 with --- second nucleic acid samples ---.

Replace “nucleic acid array” in line 20 of claim 29 with --- plurality of identical nucleic acid arrays---.

Replace “amplified fragment” in line 21 of claim 29 with ---second nucleic acid samples ---.

Replace “identical arrays” in line 22 of claim 29 with --- identical nucleic acid arrays ---.

Replace “a second nucleic acid sample” in line 3 of claim 33 with --- second nucleic acid samples ---.

Replace “amplified fragments” in line 14 of claim 33 with --- the second nucleic acid samples ---.

Replace “amplification product” in line 16 of claim 33 with --- second nucleic acid samples ---.

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Replace “nucleic acid array” in line 19 of claim 33 with --- plurality of identical nucleic acid arrays---.

Replace “amplified fragment” in line 20 of claim 33 with ---second nucleic acid samples ---.

Add the phrase “hybridizing each of the second nucleic acid samples to one of the plurality of identical nucleic acid arrays” after the phrase “to detect the bases present at a plurality of polymorphisms predicted to be present in the amplified fragments” in lines 19 and 20 of claim 33 and before the phrase “generating a hybridization pattern resulting from the hybridizations” in line 21 of claim 33.

Add the phrase “thereby genotyping the individual” after the phrase “determining the bases present at one or more polymorphisms present in the collection of polymorphisms” in lines 22 and 23 of claim 33.

Replace “adaptor and one strand of the fragment” in claim 42 with --- first or the second adaptor and one stand of each of the fragments produced by fragmenting with the first and the second restriction enzyme---.

Replace “5’ or 3’ end of an adaptor strand” in claim 44 with --- 5’ end of an adaptor strand of the second adaptor and 3’ end of an adaptor strand of the first adaptor---.

Replace “an adaptor” in claim 45 with --- the first and the second adaptor ---.

3. The following is an examiner's statement of reasons for allowance:

Claims 20, 22, 24-33, 35-40, and 42-45 are allowable in light of the applicant's arguments filed on March 4, 2005 and the examiner's amendments. The closest prior art in the record are McCasky Feazel *et al.*, (US Patent No. 6,100,030, filed on January 1998, priority date:

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January 1997), Pedersen (US 2003/0113737 A1, priority date: February 12, 2001), Guire *et al.*, (US Patent No. 6,514,768 B1, filed on January 1999), Short *et al.*, (US Patent NO. 6,238,884 B1, filed on May 9, 1999), and Makarov *et al.*, (US Patent No. 6,197, 557, filed on September, 1998). The major references from McCasky Feazel *et al.*, and Pedersen, which were used for rejecting independent claims 20, 25, 29, and 33, do not teach or suggest the combination of one adaptor blocked at the 5' end and one adaptor blocked at the 3' end (see applicant's remarks filed on March 4, 2005, page 9, first paragraph) as recited in claims 20, 25, 29, and 33. These prior art either alone or in combination with the other art in the record do not teach or reasonably suggest a method for analyzing a nucleic acid sample, a method of determining the base present at a polymorphism, a method of determining the base present at a single nucleotide polymorphism in a population of individual, and a method for genotyping an individual which comprise all of the limitations recited in claims 20, 25, 29, and 33.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

4. Papers related to this application may be submitted to Group 1600 by facsimile transmission. Papers should be faxed to Group 1600 via the PTO Fax Center. The faxing of such papers must conform with the notices published in the Official Gazette, 1096 OG 30 (November 15, 1988), 1156 OG 61 (November 16, 1993), and 1157 OG 94 (December 28, 1993)(See 37 CAR § 1.6(d)). The CM Fax Center number is (703)872-9306.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frank Lu, Ph.D., whose telephone number is (571)272-0746.

The examiner can normally be reached on Monday-Friday from 9 A.M. to 5 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, W. Gary Jones, can be reached on (571)272-0745.

Any inquiry of a general nature or relating to the status of this application should be directed to the Chemical Matrix receptionist whose telephone number is (703) 308-0196.



FRANK LU
PATENT EXAMINER

Frank Lu
PSA
March 31, 2005